AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application.

Listing of Claims:

Claims 1 through 6 (canceled)

Claim 7 (currently amended): A ~~digital information carrier~~ graphical-object bearing surface as set forth in claim [[6]] 46, wherein ~~the~~ said secondary information ~~assigned to said relative arrangement is information~~ relates~~ing~~ to a unifying rule for generating an information item by unifying bit data correlated to a plurality of said graphical-object clusters ~~information carriers~~.

Claim 8 (currently amended): A ~~digital information carrier~~ graphical-object bearing surface as set forth in claim [[6]] 46, wherein ~~the relative~~ said arrangement of said graphical-object clusters ~~information carriers~~ is assigned information relating either to coordinate axes for, or to the orientation of, an array of said graphical-object clusters ~~information carriers~~.

Claim 9 (currently amended): A ~~digital information carrier~~ graphical-object bearing surface as set forth in claim 8, wherein a layout spacing between said graphical-object clusters ~~information carriers~~ as arranged [[2]] two-dimensionally is defined for each coordinate axis.

Claim 10 (currently amended): A ~~digital information carrier~~ graphical-object bearing surface as set forth in claim 8, wherein:

among a number d (wherein $d \geq 4$) of said graphical-object clusters ~~information carriers~~ arranged consecutively, a number e of graphical-object clusters

~~information carriers~~ satisfying the condition $e < d/2$ are arranged offset in a direction orthogonal to an arraying direction formed by the remaining number $d - e$ of graphical-object clusters ~~information carriers~~; and

the information relating to the coordinate axes is assigned to the arraying direction, and the information relating to orientation is assigned to the offset.

Claim 11 (currently amended): A ~~digital information carrier~~ graphical-object bearing surface as set forth in claim 43, wherein said graphical objects are patterned so as to enable, via digital information capturing means ~~characterized in that~~:

configuration of a logical block formed by unifying a plurality of unit graphical-object clusters ~~information carriers~~ being the minimum units for decoding bit data from any said graphical-object clusters ~~a digital information carrier is enabled~~;

assigning an item of information ~~is assigned~~ to an array formed by unifying any number of constituent elements of ~~said~~ a given configured logical block ~~concerned~~; and

configuration of a new logical block by replacing at least one of the constituent elements of said given logical block with a unit graphical-object cluster ~~information carrier~~ neighboring said given logical block ~~is enabled~~.

Claim 12 (currently amended): A ~~digital information carrier~~ graphical-object bearing surface as set forth in claim 11, wherein said given logical block is constituted from a larger number of said unit graphical-object clusters ~~information carriers~~ than the number of elements in the array to which said item of information is assigned

Claim 13 (currently amended): A ~~digital information carrier~~ graphical-object bearing surface as set forth in claim 11, wherein said item of information is information with which the layout coordinates of any constituent element of said logical block are specifiable.

Claim 14 (currently amended): A ~~digital information carrier~~ graphical-object bearing surface as set forth in claim 43, wherein said graphical objects are patterned ~~characterized in~~:

so as to contain~~ing~~ a bit matrix V formed by arranging, in matrix form, array elements b_m (m = 0 to $n-1$) of a reference-bit array B having a predetermined array length n, wherein bit data is correlated to the bit matrix V;

so that two matrix elements $v(i, j)$ and $v(i+1, j)$ neighboring one (i-axis) of the two array axes of the bit matrix V satisfy

$v(i, j) = b_m$

$v(i+1, j) = b_{m+1}$; and

so that two matrix elements $v(i, j)$ and $v(i, j+1)$ neighboring the other array axis (j-axis) of the bit matrix V satisfy, letting the amount by which the array elements b_m are offset toward the j-axis be a,

$v(i, j) = b_m$

$v(i, j+1) = b_{m+a}$,

wherein the amount of offset a toward the j-axis is an integer equal to or greater than 2.

Claim 15 (currently amended): A ~~digital information carrier~~ method of decoding, via digital information capturing means, bit data from a graphical-object

bearing surface as set forth in claim 14, ~~wherein:~~ comprising, for a logical block that is a partial matrix in the bit matrix *V*, in which any one matrix element *v*(*i*, *j*) of the bit matrix *V* is the starting point, and the array length along the *i*-axis is the offset *a*, with the positive direction of the *i*-axis being a main scanning direction and the positive direction of the *j*-axis being a sub-scanning direction of the digital information capturing means,

unifying any of the constituent elements of said logical block so as to form a bit array that is identical with a partial array of the reference-bit array *B* ~~is formable by unifying any of the constituent elements of said logical block~~.

Claim 16 (currently amended): A ~~digital information carrier~~ bit-data decoding method as set forth in claim 15, wherein the reference-bit array *B* is constituted so that partial arrays of predetermined length obtained with arbitrary offsets differ from each other.

Claim 17 (currently amended): A ~~digital information carrier~~ bit-data decoding method as set forth in claim 15, ~~wherein:~~ further comprising ~~by~~ replacing the matrix element *v*(*i*, *j*) constituting said logical block and forming the terminus of the array in the main scanning direction, on the condition that either of the matrix elements v(*i*−*a*, *j*+1) and v(*i*+*a*, *j*−1) neighbors said logical block, with either of said matrix elements, to thereby configure~~ation~~ of a new logical block ~~(virtual block) is enabled~~.

Claim 18 (currently amended): A ~~digital information carrier~~ bit-data decoding method as set forth in claim 15, ~~wherein configuration of said new logical block is enabled by~~ further comprising removing from said logical block the matrix element ~~which~~ constitutinges the first ~~of~~ in said bit arrayngement ~~from said logical block~~, and

~~by~~ adding the matrix element adjacent, in the main scanning direction, to the matrix element ~~which~~ constitutinges the last ~~of this~~ in said bit arrayngement ~~concerned on the side of the main scanning direction~~, to thereby configure a new logical block.

Claim 19 (currently amended): A ~~digital information carrier~~ bit-data decoding method as set forth in claim 15, ~~wherein configuration of said new logical block is enabled by~~ further comprising removing from said logical block the matrix element ~~which~~ constitutinges the last ~~of~~ in said bit arrayngement ~~from said logical block~~, and ~~by~~ adding the matrix element adjacent, in the opposite direction from the main scanning direction, to the matrix element ~~which~~ constitutinges the first ~~of this~~ in said bit arrayngement ~~concerned on the opposite side of the main scanning direction~~, to thereby configure a new logical block.

Claims 20-42 (canceled)

Claim 43 (new): A surface bearing graphical objects recognizable by digital information capturing means, said graphical objects being patterned so as to predetermine groupings thereof that interrelate by a clustering definition establishing clusters of said graphical objects and that thereby encode primary information at least identifying the placement of the clusters of said graphical objects within the entire pattern of said graphical objects on said surface.

Claim 44 (new): A graphical-object bearing surface as set forth in claim 43, wherein said graphical objects are patterned so as further to predetermine at least one interrelationship that does not encode said primary information.

Claim 45 (new): A graphical-object bearing surface as set forth in claim 43, wherein said graphical objects are patterned in a manner such that the predetermined groupings each include at least one graphical object in common.

Claim 46 (new): A graphical-object bearing surface as set forth in claim 43, wherein said graphical objects are patterned so as further to predetermine an arrangement of said graphical-object clusters relative to each other that encodes secondary information different from the primary information.